GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

UNSTARRED QUESTION NO:4039
ANSWERED ON:23.12.2015
Nano Science and Nano Technology
Jena Shri Rabindra Kumar;Kesineni Shri Srinivas

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether the Government has taken/proposes to take any step to encourage nano science and nano technology in the country and if so, the details thereof;
(b) whether certain nano-particles can be harmful to humans and if so, the regulatory framework established by the Government to tackle the problem;
(c) the targets set and the achievements made so far during the last three years and the current year in relation to the National Mission on Nano-Science and Technology;
(d) whether the Government is providing adequate measures for the development of the National Mission's activities; and
(e) if not, the reasons therefor along with the steps taken by the Government in this regard?

Answer

MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES
(SHRI.Y. S. CHOWDARY)

(a) Yes, Madam. Realizing that Nano Science is a knowledge-intensive area of research and that nano technology would emerge as an "enabling technology", which would influence wide range of products and processes with far reaching implications for national economy and national development, the Government of India launched Nano Science and Technology Initiative (NSTI) in October 2001 to promote Research & Development (R&D) in Nano Science and Technology, almost at the same time as some of the developed nations of the world. On 3rd May 2007, the Government of India launched the Nano Mission, as an "umbrella capacity-building programme" for 5 years (Phase-I). Impressed by the achievements of Nano Mission, the Government has also approved its continuation in the 12th Plan Period (Phase-II).

The Nano Mission has supported a variety of programmes such as Individual Scientist-Centric Projects, Units on Nano Science, Centres of Nano Technology, Thematic Units of Excellence, Joint Institute-Industry linked Projects, Post-Graduate Programmes and Post-Doctoral-Fellowships, International Collaborations, etc. A whole range of sophisticated characterization facilities have been established. Nano Mission has also enabled assured access of Indian scientists to frontline synchrotron radiation facilities in the world. The Government has also set up an Institute of Nano Science and Technology at Mohali, Punjab. As a result of all these steps, India today is placed 3rd in the world in terms of scientific publications. Some very useful technologies for drinking water purification, hand-held explosive detection devices, antimicrobial textiles, antimicrobial ointments etc. have come out from the country.

To further push technology-related programmes in future, the Nano Mission plans to support applied technology development projects targeting different stages of technology development.

(b) Studies on harmful effects of nano particles on human are being carried out both nationally and internationally. There are no specific regulatory frameworks for nanotechnology globally as of today. In keeping with the global trends, various agencies of the Government are promoting studies on toxicity of various kinds of nanoparticles, development of standards and policy frameworks for laying down a regulatory framework roadmap for nanotechnology in India. In the meantime, various nano-enabled products are being governed by their parent regulations like those for drugs, chemicals, pesticides etc.

(c) The targets set and achievements made so far during the last three years and the current year in relation to the National Mission on Nano Science and Technology are given in the Annexure.

(d) Yes, Madam. The Government has accorded high priority to the Nano Mission as described in reply to part (a) above.

(e) Does not arise.

Contd..3/-

ANNEXURE

Targets for 2012-13, 2013-14, 2014-15 & 2015-16 till 18.12.2015 Achievements/ Activities supported 2012-13, 2013-14, 2014-15 & 2015-16 till 18.12.2015
Basic Research Promotion 117 Individual Scientist-Centric R&D projects
2 Centres of Excellence

Human Resource Development 3 new PG programmes and continued support to 2 old PG programmes
14 Post Doctoral Fellowships
2 Biennial Nano-India Meets
20 National and International Conferences
Nano Science and Technology (NS&T) Visiting Associateships − approved
NS&T Overseas Visiting Fellowships- approved
Research Infrastructure Development 3 Research Facilities and continued support to 2 facilities
International Collaboration India-Japan beam line project at Photon Factory, Tsukuba, Japan
India-PETRA III Collaboration at Hamburg,Germany
Indo-Canada Exchange Programme
Scheme for utilization of synchrotrons/neutron sources abroad
Access to Spallation Neutron Source (SNS) at Rutherford Appleton Laboratory, UK − project finalized.
Orchestrating National Dialogues Project for strengthening of Nano-Standards Related Work at the national level
Guidelines for Safe Handling of Nanomaterials developed
Efforts towards development of National Regulatory Framework Roadmap for Nanotechnology continued
Nano Applications & Technology Development Programme (NATDP) 1 Nanotechnology Business Incubator
2 Centres for Nanotechnology
1 Joint Institute-Industry Linked project finalized
3 Proof of Concept (POC) Projects finalized.
Formats and guidelines developed for Proof of Commercial Value (POCV) Projects, Technology Demonstration Projects (TDPs) Technology Commercialization Projects (TCPs).
Budget allocated for 2012-13, 2013-14, 2014-15 and 2015-16 was Rs. 300 crores (RE Figures) and expenditure as on 18.12.2015 is Rs.270.45 crores.

****